

Pothole Service Request Fulfillment: Department of Transportation and MC311 Discussion

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4/8/2011

CountyStat Principles

- **Require Data Driven Performance**
- **Promote Strategic Governance**
- **Increase Government Transparency**
- **Foster a Culture of Accountability**



Agenda

- **Pothole Repair Background Information**
- **Current Pothole Service Request Back-Office Process**
- **Service Request Statistics**
- **Service Level Agreement Closure Rate**
- **Field Audit Results**
- **Wrap-Up and Follow-Up Items**



Pothole Repair Background Information: Patching Methods

There are three different methods for pothole repair: cold patch, patch truck, and patch crew.

Patching Method	Description	Repair Lifespan
Cold Mix	Drop cold patch into pothole and drive over patch with truck to tamp down	Hours to months
Patch Truck	Clean and prep damaged area. Fill pothole with hot asphalt mix and tamp down by hand or with roller	Months to a year
Patch Crew	Saw, excavate, and grade damaged area then replace road portion with new asphalt mix and smooth with steamroller	12-15 years



Pothole Repair Background Information:

Utility Providers and Road Repair

- In some instances, DOT can not make repairs to a section of roadway because of utility lines or damage caused by issues such as water main breaks
- Often damage surrounds or includes utility provider access covers
- Once identified by DOT, they notify the utility provider of the damaged area and location
- Each utility provider has a different timetable for repair depending on their workload and the severity of the damage



Residents that report damage are unlikely to know if the repair is the responsibility of the County or the utility provider



Current Pothole Service Request Back-Office Process



**Receive and
Review Siebel
Request**



**Print
Siebel
Request**



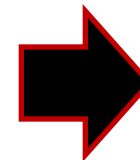
**File Printed
Siebel Request
For Work Dispatch**



**Repair
Pothole**



**Note Completed
Work on Printed
Request**



**Close out
Siebel
Request**



CountyStat Observations on Current Pothole Service Request Back-Office Process

Current processes are still heavily reliant on paper filing methods for processing service requests

- **DOT staff spend significant field time interacting with residents and serving as a personal point of contact regarding individual cases**
 - These interactions are not captured in any of the macro-level MC311 reporting
- **The current Siebel-integrated GIS layer contains old depot boundaries resulting in the incorrect categorization of the responsible depot**
 - Depot staff email the service request to the responsible depot for service completion
- **DOT pothole service requests can only be printed on an individual basis**
 - This week, MC311 started deploying reports that allow the printing of service requests in bulk by date or sub area



CountyStat Observations on Current Pothole Service Request Back-Office Process

Current operating procedures likely have an impact on the accuracy of macro-level performance reporting. Additional training and guidance from MC311 could help improve the accuracy of data.

- **The Web Portal validates addresses but does not verify if an address is a County road, resulting in the creation of a service request that cannot be completed by DOT**
- **Duplicative requests for a single pothole are closed immediately and the closed service request number is referenced in a text field of the remaining open request**
 - While this process allows customer service representatives to look up status, this practice impacts the calculation of overall service level agreement closure time and limits the ability of a resident to get an accurate status update via the web portal
- **Service requests that cannot be fulfilled by the department, or are duplicative, are closed and listed as complete**
 - The use of the “closed-cancelled” designation would separate these instances during macro-level reporting



Pothole Service Request Back-Office Process: Closed Complete Versus Cancelled

Closure Status	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Grand Total
Closed	51	86	75	114	169	132	125	325	583	1660
Cancelled	2	2	1	1	3			2		11
Complete	47	84	74	113	166	132	125	323	583	1647
(blank)	2									2
In Progress					1	1	1	4	38	45
Assigned					1	1	1	2	16	21
Fulfillment at Department								2	22	24
Grand Total	51	86	75	114	170	133	126	329	621	1705

CountyStat Recommendation: Duplicative service requests, or requests that cannot be completed by DOT, should be either referred to another agency (non-MCG if necessary) or cancelled



Duplicative Service Requests Example (1 of 2)

A service request was generated for a pothole at Arcola and Kemp Mill on Nov. 11th via the Call Center and again on Nov. 19th via the Web Portal

The screenshot displays the 'Service Requests List' interface for request 133454731. The top navigation bar includes links for Home, Contacts, Incidents, Service, Accounts, Knowledge Base, My Dashboard, and Service Orders. The 'Service Request Details' section shows the following information:

- SR #:** 133454731
- Request Type:** Service Request - Fulfill
- Opened:** 11/15/2010 07:23:52 AM
- Priority:** 3-Medium
- Source:** Phone
- Attached Solution:** Pothole Repair
- Closed:** 11/19/2010 04:15:18 AM
- Status:** Closed
- Statistical Postal Code:**
- Email at Fulfillment:**
- Creator:** [Redacted]
- Sub Status:** Complete

The 'Primary/Alternate Contact Details' section includes fields for Last Name, First Name, Service Contact Email, Preferred Language (English), Service Phone, Contact Preference, Alt. Last Name, and Alt. First Name. The 'Service Location' section shows Location Type as Intersection, with Cross Street 1 as Arcola and Cross Street 2 as Kemp Mill. The 'Ownership' section lists Department as DOT, User Group as DOT Highway, Area as Highway Services, and Sub Area as Pothole Repair. The 'Summary and Notes Flag' section contains the text: 'pothole needs to be repaired', 'arcola and kemp mill rd', and 'no further info given, customer hung up'. The 'Notes Attached Flag' is also present.

The bottom section, 'Activities', shows a list of activities with columns for New, Comments, Type, Start, Due, Status, Priority, Owner, End, and Duration. The activities are as follows:

New	Comments	Type	Start	Due	Status	Priority	Owner	End	Duration
*	Patched with hot asphalt mix	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
*	Pothole as stated	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
*	none	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
*	Pothole Repair	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
*	Complete	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
*	Patch with hot asphalt mix	DOT Activity Plan	11/18/2010 04:05:52 AM		Done		[Redacted]		
	Call - Inbound		11/15/2010 07:23:06 AM	11/15/2010 07:23:00 Unscheduled			[Redacted]	11/15/2010 07:29:36	



Duplicative Service Requests Example (2 of 2)

Both service requests are “closed - complete” on Nov. 19th therefore the completion period for one request is 5 days and 1 day for the other although there was only one pothole instance

The screenshot displays a web application interface for managing service requests. The top navigation bar includes links for Home, Contacts, Incidents, Service, Accounts, Knowledge Base, My Dashboard, and Service Orders. The main content area is titled "Service Requests List" and shows details for request 133741508.

Service Request Details:

- SR #: 133741508
- Request Type: Service Request - Pothole Repair
- Opened: 11/19/2010 10:23:54 AM
- Priority: 3-Medium
- Source: Web
- Attached Solution: Pothole Repair
- Closed: 11/19/2010 03:47:18 PM
- Status: Closed
- Statistical Postal Code: 20902
- Email at Fulfillment:
- Creation: SVC-311WEBPORTAL - W
- Sub Status: Complete

Primary/Alternate Contact Details:

- Last Name: [Redacted]
- First Name: [Redacted]
- Service Contact Email: [Redacted]
- Preferred Language: [Redacted]
- Service Phone: [Redacted]
- Contact Preference: [Redacted]
- Alt. Last Name: [Redacted]
- Alt. First Name: [Redacted]

Service Location:

- Location Type: Intersection
- Cross Street 1: [Redacted]
- Cross Street 2: [Redacted]
- Prefix: [Redacted]
- Street: Annsle
- Suffix: [Redacted]
- Type: ALE
- Prefix: [Redacted]
- Street: Kamp Hill
- Suffix: [Redacted]
- Type: RD

Ownership:

- Department: DOT
- User Group: DOT Highway
- Area: Highway Services
- Owner User: SVC-311WEBPORTAL - W
- Sub Area: Pothole Repair
- External Organization: [Redacted]

Summary and Notes Log:

- put hole at the intersection of Kamp Hill Road and Annsle.

Activities:

New	Comments	Type	Start	Due	Status	Priority	Owner	End	Due at
*	Patched with hot asphalt mix	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
*	Pothole as stated	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
*	none	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
*	Pothole Repair	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
*	Complete	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
*	Patch with hot asphalt mix	DOT Activity Plan	11/19/2010 03:44:09 PM		Done		[Redacted]		
closed <body> <table border="1" width="100%"> Email - Outbound									

SVC-311WEBPORTAL 11/19/2010 10:23:58



CountyStat Recommendations for Improving Existing Practice

Tweaks to existing back-office practice will yield greater efficiencies and ensure accurate macro-level reporting

- 1. Update County GIS layer to include revisions to DOT-Depot boundaries**
- 2. Close out duplicative service request by referencing remaining service request and closing others as cancelled**
- 3. Change “request-type” of service requests for potholes outside County jurisdiction from “service request fulfillment” to “referral”**
- 4. Investigate alternative methods for field deployment that include creating the ability for road crews to receive updated information and create service requests in the field via electronic means**

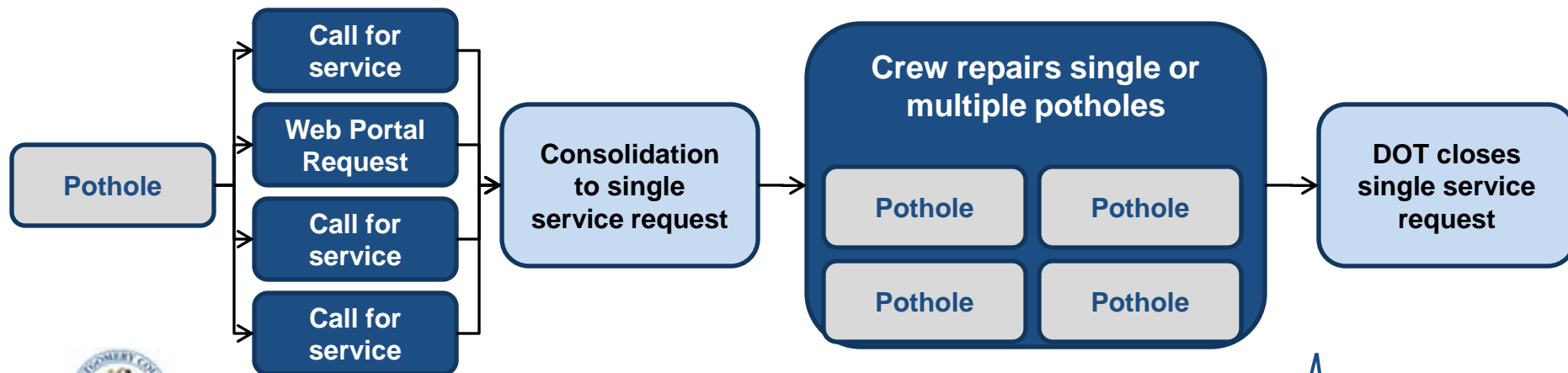


Measuring Overall Pothole Service Request Performance

Measurement Challenges: Defining A Ratio For Measuring Success

1. Customer request intake figures do not necessarily match with the number of potholes
2. The scope and associated cost of pothole repair varies largely dependent on the requirements for proper repair and the processes selected
3. Service requests are not currently generated for each pothole filled within a request
4. Additional repairs conducted while onsite do not necessarily generate a service request

Pothole Performance Management Measurement Stages



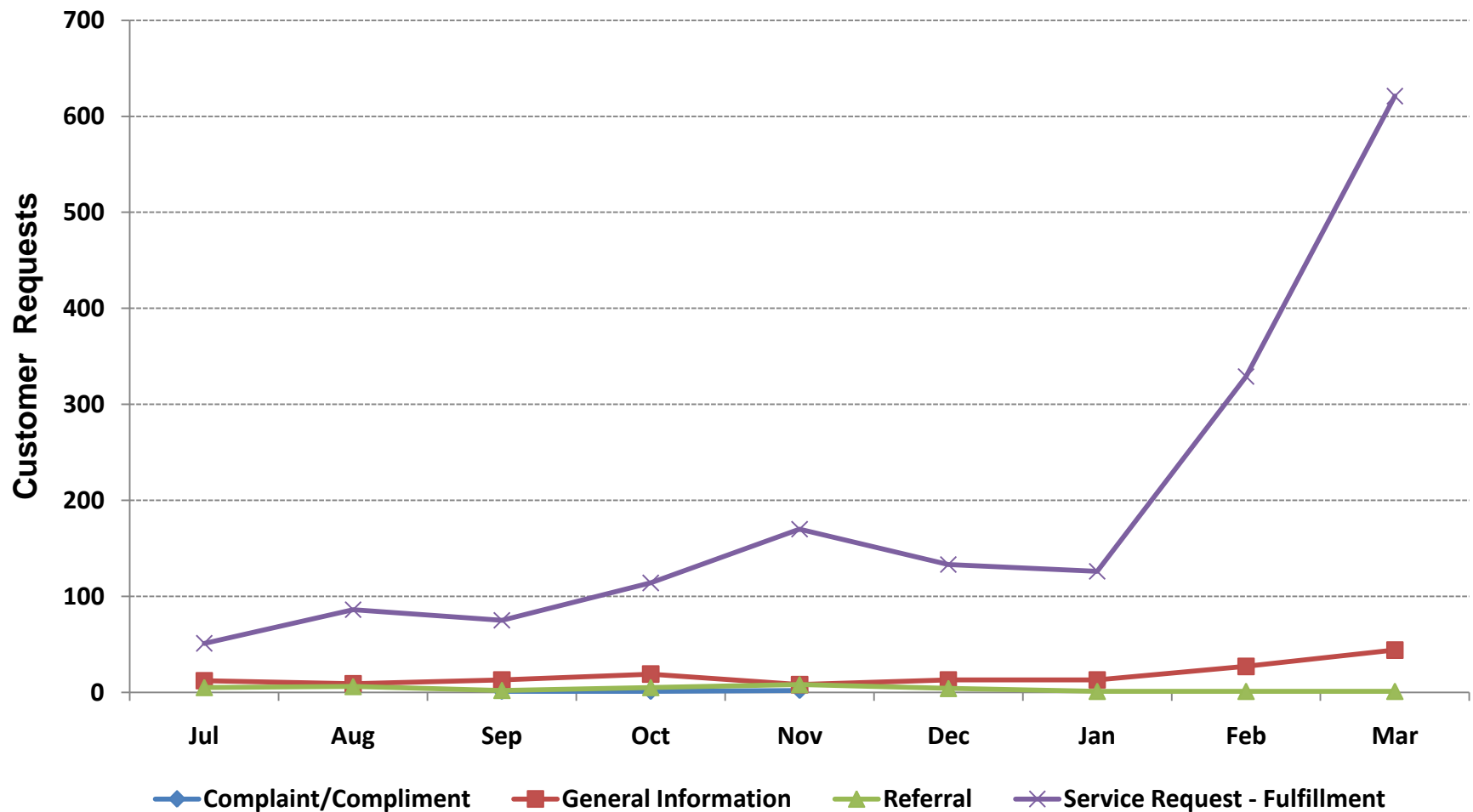
DOT Pothole Monthly Customer Request Totals by Type

90% of pothole customer requests are service request fulfillments that go to the Department of Transportation for completion

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Avg.	Total
Complaint/ Compliment			1	1	2					1	4
General Information	12	9	13	19	8	13	13	27	44	18	158
Referral	5	6	2	5	8	4	1	1	1	4	33
Service Request - Fulfillment	51	86	75	114	170	133	126	329	621	189	1,705
Total	68	101	91	139	188	150	140	357	666	211	1,900



DOT Pothole Monthly Customer Request Totals by Type



Pothole Service Requests by Intake Method

Web Portal generated pothole service requests are the highest volume of all intake methods

	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Avg.	Total
Email	1									1	1
Internal	1	5	3	3	6	5	1	2	4	3	30
Phone	43	75	57	66	69	67	48	117	222	85	764
Web	2	4	14	44	91	60	76	204	357	95	852
Total	47	84	74	113	166	132	125	323	583	183	1,647



Web Portal Pothole Service Request Process



1) Customer searches for “pothole” in MC311 search engine

2) After selecting “Pothole Repair” from the search results, a description of the service, expected time to complete, and MD State contact information appears

All Services

County Department: DOT

Pothole Repair

Generally, potholes are repaired within 4 business days on County maintained roadways (not numbered routes such as Connecticut Avenue, East-West Highway, or municipalities such as City of Rockville or City of Gaithersburg). Please create a service request with the required fields and provide a brief description of size and location under "Additional Information". Options for locations and or reference points; address, closest intersection, near a business (McDonalds, 7-11, shopping center, etc.) or between 2 streets such as Crabbs Branch Road between Shady Grove Road and Redland Road.

If the pothole is located on a numbered route, please contact the State of Maryland at 301-572-5166 for lower county residents and 301-948-2477 for upper county.

Create Service Request



Web Portal Pothole Service Request Process

3) After selecting the “Create Service Request” button, a form loads that allows the customer to input their contact information, service location, and any additional information

4) Once submitted, a service request number is generated for the customer to track the completion of the request

You can tell us about your request here on the Internet OR by calling the Montgomery County Public Service Center at 311. Required fields are indicated with a red asterisk (*).

Contact information

* Last Name:
* First name:
* Email:
Phone:

Service/Incident Address information

* Street Type: ☒ Street ☐ Inter ☐ Ocean ☐ Highway ☐ Cit
* Building #:
Street Prefix:
* Street Name:
* Street Type: AL
Street Suffix:
Apartment #:
* City:

Additional Information

Debris Pickup

Estimate Size of Debris:
Location of Debris:

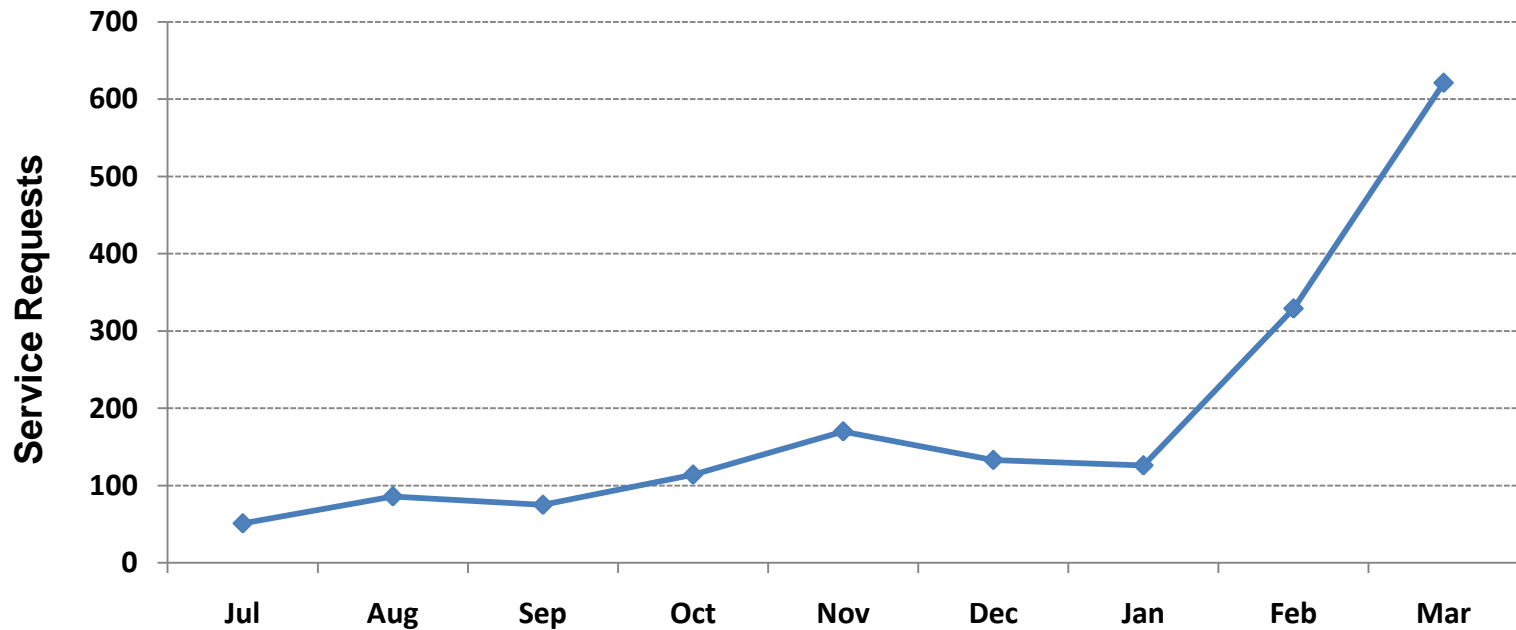
Brief Description:
(No more than 2000
characters)

Input Validation



Pothole Repair Sub Area Service Request Fulfillment by Month

DOT repairs many potholes not reported via MC311 as part of ongoing road maintenance efforts.



	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Avg.	Total
Pothole Repair SRs	51	86	75	114	170	133	126	329	621	189	1,705



Pothole Service Request Fulfillment by DOT Depot

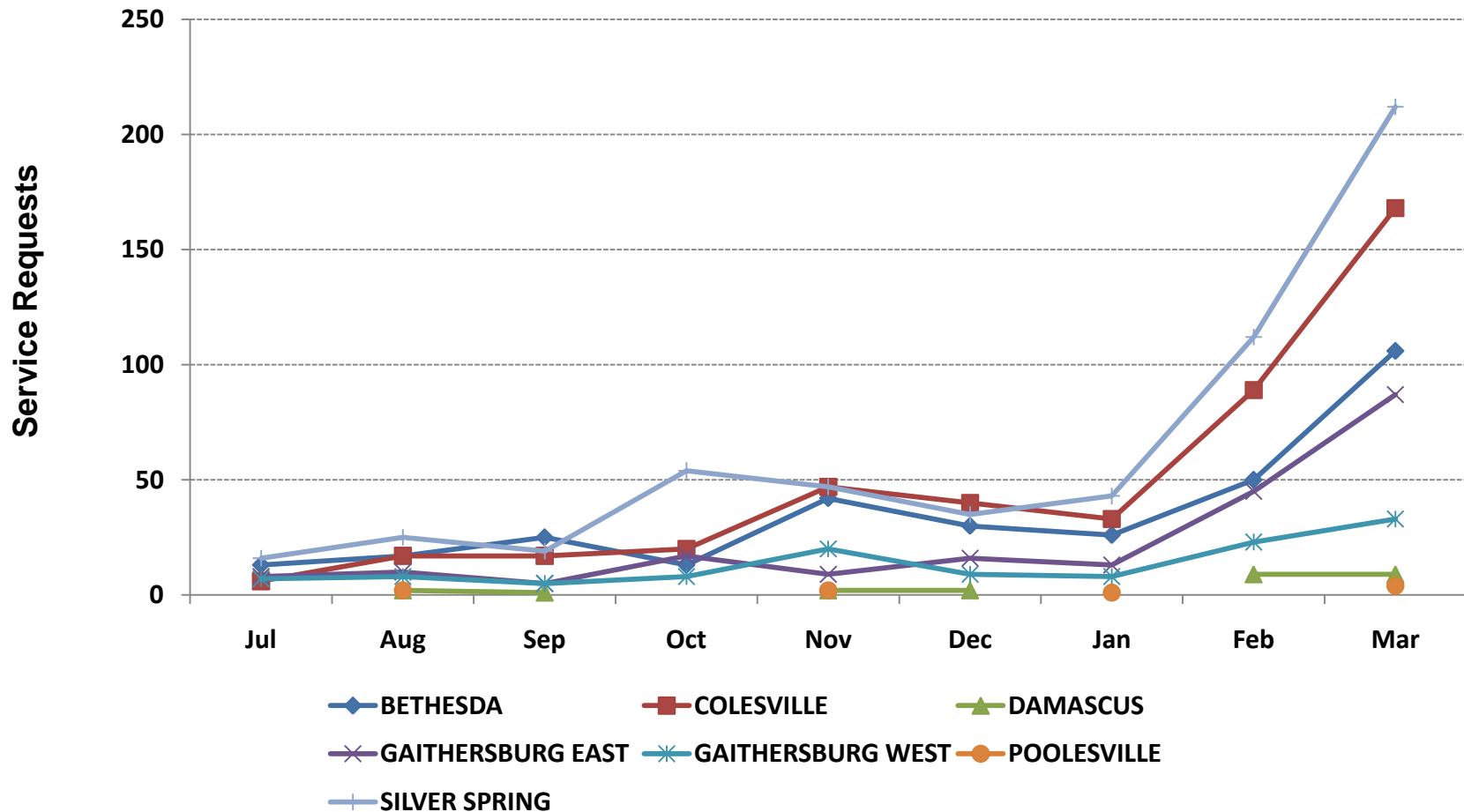
	July	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Avg.	Total
BETHESDA	13	17	25	13	42	30	26	50	106	36	322
COLESVILLE	6	17	17	20	47	40	33	89	168	49	437
DAMASCUS		2	1		2	2		9	9	4	25
GAITHERSBURG EAST	8	10	5	17	9	16	13	45	87	23	210
GAITHERSBURG WEST	7	8	5	8	20	9	8	23	33	13	121
POOLESVILLE		2			2		1		4	2	9
SILVER SPRING	16	25	19	54	47	35	43	112	212	63	563
Total	50	81	72	112	169	132	124	328	619	187	1687

Excludes "blank" entries

DOT repairs many potholes not reported via MC311 as part of ongoing road maintenance efforts.



Pothole Service Request Fulfillment by DOT Depot



Average Workdays to Close Pothole Repair

Weather inhibits the ability of DOT to repair potholes in the winter months.

	Oct	Nov	Dec	Jan	Feb	Mar
Avg. Workdays	10.2	9.9	8.6	7.4	4.8	4.1
Max Workdays	63	100	69	32	28	19
Std Deviation	12.2	15.8	9.0	5.5	3.8	3.0

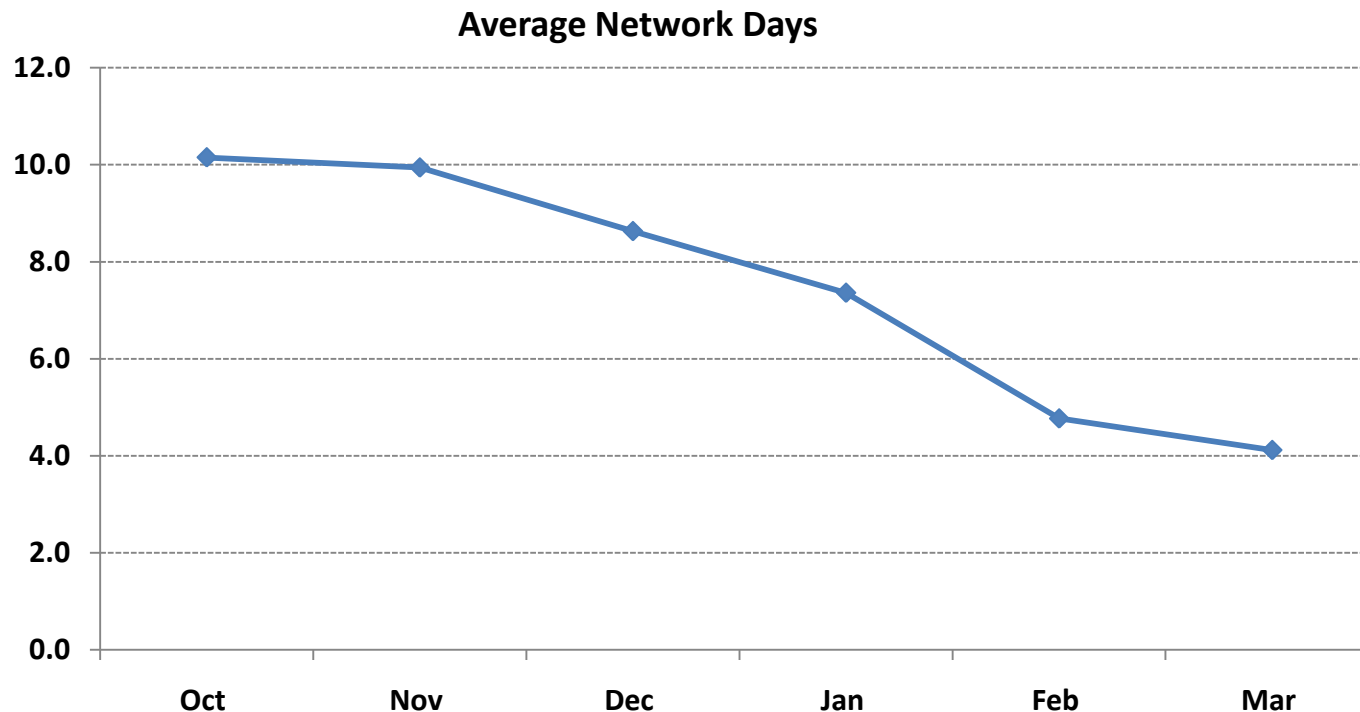
	Oct	Nov	Dec	Jan	Feb	Mar
Percent Closed Within SLA	40%	46%	40%	35%	62%	70%

Note: Workday calculation does not include allowance for holidays
DOT repairs many potholes not reported via MC311 as part of ongoing road maintenance efforts.



Average Workdays to Close Pothole Repair

The Service Level Agreement (SLA) for pothole repair is 4 business days.
Data prior to October was processed in a legacy system and is not included in this analysis.



Note: Workday calculation does not include allowance for holidays

Days to Close Pothole Service Request by Month

Over the course of the sample time period, 58% of the service requests were closed within the SLA of 4 days.

	Oct	Nov	Dec	Jan	Feb	Mar	Avg.	Total
1 Day	5	13	5	7	21	56	18	107
2 Days	15	27	23	12	48	137	44	262
3 Days	11	25	15	14	84	121	45	270
4 Days	14	12	10	11	47	97	32	191
5 Days	9	13	9	12	41	56	23	140
6 Days	2	13	6	9	27	32	15	89
7 Days	7	10	13	8	13	20	12	71
8 Days	8	11	5	10	4	11	8	49
9 Days	1	3	5	4	13	8	6	34
10 Days	3	10	4	7	9	13	8	46
11-20 Days	30	12	27	27	12	32	23	140
21-30 Days	3	2	5	2	4		3	16
30 + Days	5	15	5	2			7	27
Total	113	166	132	125	323	583	240	1442

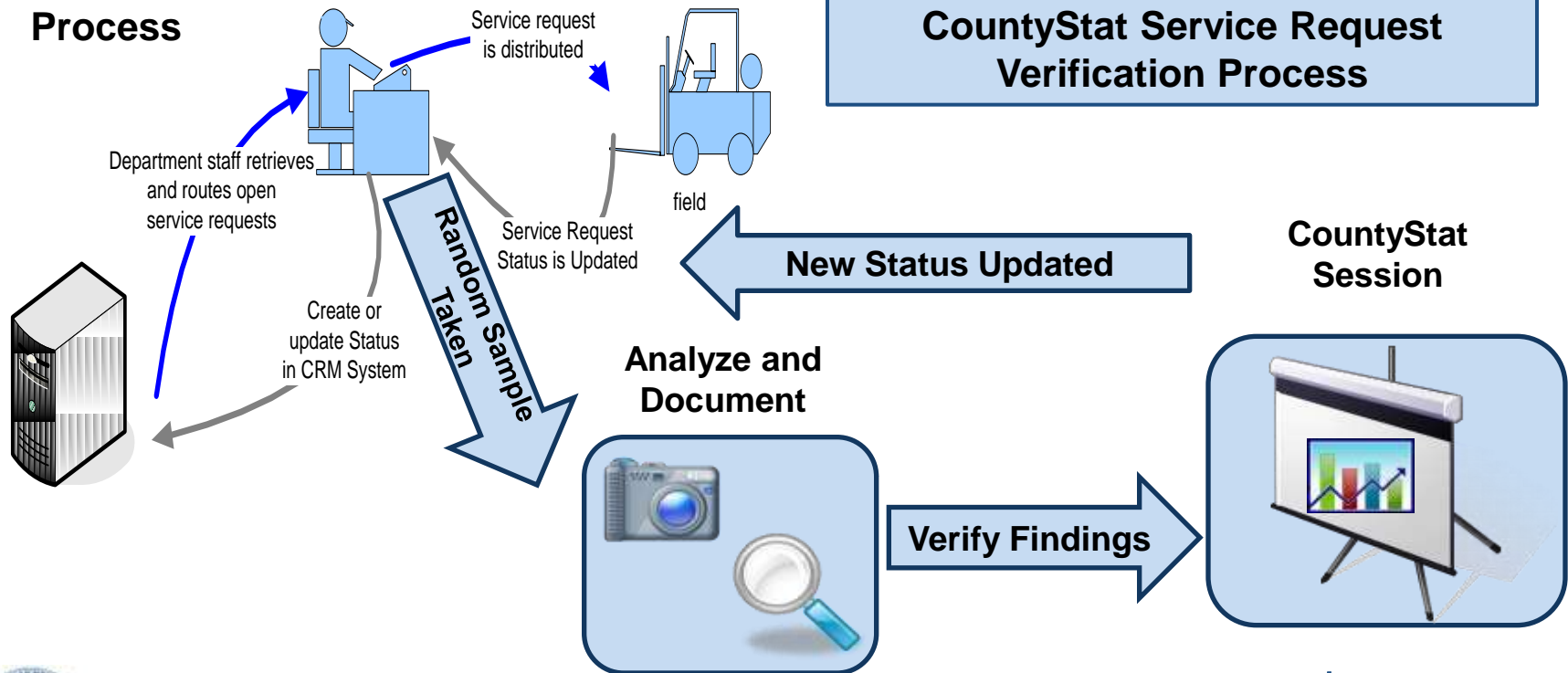


Note: Workday calculation does not include allowance for holidays

CountyStat Performance Auditing Process

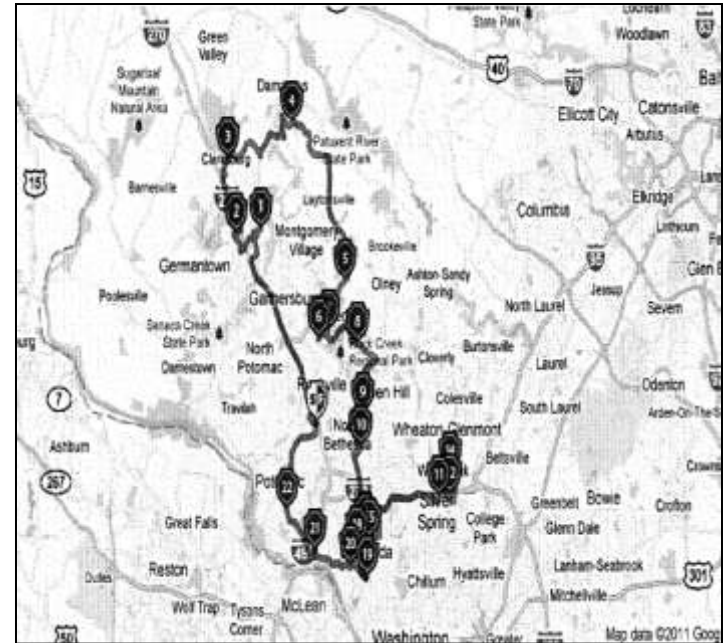
CountyStat conducts a random sampling of completed service requests, manually verifies that request is completed, and holds CountyStat session with representative department(s) to discuss results of the analysis

Current MC311 Process



CountyStat Performance Auditing Process: DOT-Highway Services April 2011 Pothole Audit

- **Date of Audit:**
 - April 1, 2011
- **Departments Audited:**
 - DOT: Highway Services
- **Sample Time Period:**
 - Opened on or after March 1st 2011
 - Closed on or before March 31st 2011
- **Sample Size:**
 - Examined 22 cases throughout the entire County
 - Included all County depots
 - Primarily cases involving emergency spot patching
- **Perspective:**
 - Completeness judged from perspective of resident who reported the issue



DOT Service Request Fulfillment Complete Case # 1

Service Request Number:

- 145913163

DOT Depot:

- Gaithersburg East

Date Opened:

- 3/11/2011

Date Closed:

- 3/17/2011

Address:

- Neelsville Church Rd. and Church Bend Ct.

Issue:

- “Potholes along Neelsville Church Rd. please repair”

CountyStat Assessment:

Complete

**DOT Repair Notation:**

- “Filled potholes with hot mix”



DOT Service Request Fulfillment Complete Case # 2

Service Request Number:

- 145604462

DOT Depot:

- Bethesda

Date Opened:

- 3/9/2011

Date Closed:

- 3/17/2011

Address:

- 7500 Pearl St.

Issue:

- “Pothole is located in 7500 block of Pearl St, circling the sewer cover in the crosswalk in front of Our Lady of Lourdes church.”

CountyStat Assessment:

Complete



DOT Repair Notation:

- “Completed, patch pothole with asphalt “



DOT Service Request Fulfillment Complete Case # 3

Service Request Number:

- 146094784

DOT Depot:

- Bethesda

Date Opened:

- 3/14/2011

Date Closed:

- 3/25/2011

Address:

- Cordell Ave. and Woodmont Ave.

Issue:

- “large potholes on the 4700 block of Cordell Ave Bethesda 20814. On Cordell Ave between Wisconsin and Woodmont”

CountyStat Assessment:

Complete



DOT Repair Notation:

- “Completed, patch pothole with asphalt “



DOT Service Request Fulfillment Incomplete Case # 1

Service Request Number:

- 146221164

DOT Depot:

- Bethesda

Date Opened:

- 3/15/2011

Date Closed:

- 3/28/2011

Address:

- 6904 Seven Locks Rd.

Issue:

- “Pothole towards the center lane”

CountyStat Assessment:

Incomplete

**DOT Repair Notation:**

- “There are many potholes at the above location”



DOT Service Request Fulfillment Incomplete Case # 1

DOT Response:

- This location was repaired as reported.
- Pot hole repair using Cold Mix material during unfavorable pavement and weather conditions produces various results that may last anywhere from two hours to several months depending on factors such as pavement temperature, pavement moisture, locating in roadway (i.e. wheel path vs. center of the lane), traffic volume, etc.
- The pothole at the centerline of the road was reported by Highway personnel as completed, and viewing the time of year of the request and subsequent action the material used was undoubtedly Cold Mix.
- There is no evidence of remaining Cold Patch material in the roadway; however that comes as no surprise considering the location of the hole (at centerline) likely experienced significant traffic activity, dispersing the material.



DOT Service Request Fulfillment Incomplete Case # 2

Service Request Number:

- 148183652

DOT Depot:

- Gaithersburg East

Date Opened:

- 3/29/2011

Date Closed:

- 3/31/2011

Address:

- 18905 Muncaster Rd.

Issue:

- “Pothole on Muncaster Road, between Annamarie Court and Granby Road. I think 18905 is the closest street number.”

CountyStat Assessment:

Incomplete



DOT Repair Notation:

- “Filled pothole”



DOT Service Request Fulfillment Incomplete Case # 2

DOT Response:

- This location was repaired as reported.
- This photo clearly shows that work was accomplished at this location; albeit attempts to patch this area with “cold mix” asphalt during unfavorable pavement and weather conditions resulted in a recurring pothole.
- From the photo, it is apparent in the photo that “cold mix” material is scattered about the area; the result of traffic loads in the wheel path, excessive moisture and multiple freeze thaw cycles.
- Therefore, the Work Order had been appropriately closed-out considering the pavement and environmental circumstance.



Wrap-Up and Follow-Up Items

